UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,045	04/08/2004	Abid Ghuman	81095799 / FMC 1664 PUS	3044

28395 . 7590 07/26/2006

BROOKS KUSHMAN P.C./FGTL
1000 TOWN CENTER
22ND FLOOR
SOUTHFIELD, MI 48075-1238

EXAMINER	
AGRAWAL, CHRISTOPHER K	

ART UNIT	PAPER NUMBER
3726	

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/709,045	GHUMAN ET AL.	
	Examiner	Art Unit	
	Christopher K. Agrawal	3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Sekine et. al. (U.S. Patent No. 5,127,569).

3. *Claim 1:* Sekine teaches a method of designing a manufacturing process line **(Fig. 1)**, for a vehicle closure **(Col. 1 lines 21-23)** the method comprising: identifying a manufacturing process comprising a set of discrete steps **(Col. 2 lines 10-32)** to be performed on at least one workpiece; identifying a plurality of standardized work cells **(e.g. sub-assembly lines/cells 1-6)**, each work cell having at least one standardized workpiece presenter **25** that supports the workpiece in a predefined spatial orientation, and at least one standardized processing tool **46**; wherein for each work cell at least a portion of the at least one standardized workpiece presenter remains stationary relative to the at least one standardized processing tool when the workpiece is moved within and between each work cell **(note that the looped guideway constitutes part of the standardized workpiece presenter and that it remains stationary relative to the processing tools)** ; selecting a subset of the set of discrete steps to be performed at a work cell and selecting the standardized work cell for performing the subset of steps **(Col. 2 lines 25-32)**; and repeating the selecting step for additional subsets of steps to

be performed at one of the plurality of work cells until all of the discrete steps are assigned to one of the plurality of work cells **(Col. 7 lines 29-35)**.

4. With respect to the acts of designing the manufacturing process line and identifying processes and work cells, these acts are inherent to the overall process of the alleged invention as well as the cited reference. In order to put an assembly into tangible form, its elements must have at least been designed, identified and assembled in a certain manner. Furthermore, examiner interprets a vehicle "body panel" to anticipate a vehicle closure.

5. *Claim 2:* Sekine also teaches the method of claim 1 wherein a plurality of manufacturing process lines are identified as templates **(Figs. 1-3)**.

6. *Claim 3:* Sekine also teaches the method of claim 2 wherein the manufacturing process line is completely designed by specifying a plurality of templates in a defined sequence **(Figs. 1-3)**.

7. *Claim 4:* Sekine also teaches the method of claim 1 wherein the workpiece presenter and processing tool are interrelated with an integrated standard control system **(e.g. Col. 6 lines 30-37)**.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine in view of Ozaku et. al. (U.S. Patent No. 6,467,675).

10. Sekine teaches the method of claim 1 as described above but fails to specifically teach the method wherein a first work cell comprises the standardized workpiece presenter comprising a pedestal welding work cell having a robotic arm for picking up and moving workpieces from a fixture to the processing tool selected from the group consisting essentially of a pedestal welder, a sealant dispensing unit and a projection weld gun.

11. Ozaku et. al. teaches a standardized workpiece presenter comprising a pedestal welding work cell having a robotic arm for picking up parts from a fixture and moving the parts to the processing tool selected from the group consisting essentially of a pedestal welder, a sealant dispensing unit, and a projection weld gun **(Col. 8 lines 37-67)**.

12. It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the workpiece presenter and processing tool of Ozaku with any one of the work cells of Sekine. It is very well known within the art of manufacturing and more specifically assembly line manufacturing to place machine cells having various workholders and tools in various arrangements as desired. For example, it would be obvious for a designer to place a work cell having a hexapod manipulator and a welder in a location of the assembly line where it is desirable to have a workpiece welded while being held by a hexapod manipulator. It has been held that mere arrangement of various components does not constitute patentable matter. *In re Japikse,* 86 USPQ 70.

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine/Ozaku in view of Moran (U.S. Patent No. 5,014,901) and Okabe et. al. (U.S. Patent No. 3,763,344).

14. Sekine/Ozaku teach the method of claim 5 as described above but do not specifically teach the method wherein a second work cell comprises the standardized workpiece presenter comprising a multiple sided trunnion fixture having a plurality of fixtures for a plurality of workpieces that are rotated about a horizontal axis and the processing tool is selected from the group consisting essentially of a welding robot and a sealant applicator.

15. Moran teaches a standardized workpiece presenter comprising a multiple sided trunnion fixture **16** having a plurality of fixtures for a plurality of workpieces that are rotated about a horizontal axis **(Col. 3 line 28 – Col. 4 line 10)**.

16. Okabe et. al. teaches a processing tool that is a welding robot **(Fig. 2)**.

17. It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the workpiece presenter of Moran and processing tool of Okabe with any one of the work cells of Sekine. It is very well known within the art of manufacturing and more specifically assembly line manufacturing to place machine cells having various workholders and tools in various arrangements as desired. For example, it would be obvious for a designer to place a work cell having a hexapod manipulator and a welder in a location of the assembly line where it is desirable to have a workpiece welded while being held by a hexapod manipulator. It has been held that

mere arrangement of various components does not constitute patentable matter. *In re Japikse,* 86 USPQ 70.

18. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine/Ozaku/Moran/Okabe in view of Stiers et. al. (U.S. Patent No. 6,642,473).

19. Sekine/Ozaku/Moran/Okabe teach the method of claim 6 as described above but do not specifically teach the method wherein a third work cell comprises the standardized workpiece presenter comprising a fixture in a tool and the processing tool is selected from the group consisting essentially of a hemming tool, a clinching tool and a piercing tool.

20. Stiers teaches the method wherein a work cell comprises the standardized workpiece presenter comprising a fixture in a tool and the processing tool is selected from the group consisting essentially of a hemming tool **10**, a clinching tool and a piercing tool **(Col. 4 lines 31-53)**.

21. It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the fixture and processing tool of Stiers with any one of the work cells of Sekine. It is very well known within the art of manufacturing and more specifically assembly line manufacturing to place machine cells having various workholders and tools in various arrangements as desired. For example, it would be obvious for a designer to place a work cell having a hexapod manipulator and a welder in a location of the assembly line where it is desirable to have a workpiece welded while

being held by a hexapod manipulator. It has been held that mere arrangement of various components does not constitute patentable matter. *In re Japikse,* 86 USPQ 70.

22. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine et. al. (U.S. Patent No. 5,127,569).

23. *Claims 8-11*: Sekine teaches the method of claim 1 as described above but does not specifically teach the method wherein the vehicle body panel is a passenger compartment door, trunk lid, hatchback or engine compartment hood **(Col. 1 lines 21-24)**.

24. It would have been obvious to one of ordinary skill in the art to have incorporated the manufacture of a passenger compartment door, trunk lid, hatchback or engine compartment hood in the manufacturing process line of Sekine since it would have been obvious to use the method for the manufacture of any vehicle part or combination of parts considering that Sekine broadly teaches the use of this manufacturing line for the production of any body part.

25. Claims 12-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine (U.S. Patent No. 5,127,569 in view of Ozaku et. al. (U.S. Patent No. 6,467,675), Moran (U.S. Patent No. 5,014,901) and Okabe et. al. (U.S. Patent No. 3,763,344).

26. *Claim 12*: Sekine teaches a manufacturing process line for making a vehicle closure **(Col. 1 lines 21-23)**, the manufacturing process line comprising a first template

having a plurality of work cells wherein the plurality of work cells are arranged in a predetermined sequence such that various workpiece presenters are disposed between consecutive work cells **(see sequence of Fig. 1)** but does not specifically teach the process line wherein the work cells include a pedestal welding work cell having a robotic arm for picking up and moving a workpiece to a processing tool selected from the group consisting essentially of a pedestal welder, a sealant dispensing unit, and a projection weld gun; and a trunnion work cell having a multiple sided trunnion fixture that is rotated about a horizontal axis to position the workpiece near a second processing tool selected from the group consisting essentially of a welding robot and a sealant applicator; wherein the plurality of work cells are arranged in a predetermined sequence such that at least one trunnion work cell is disposed between consecutive pedestal welding work cells.

27. Ozaku teaches a pedestal welding work cell having a robotic arm for picking up and moving a workpiece to a processing tool selected from the group consisting essentially of a pedestal welder, a sealant dispensing unit, and a projection welding gun **(Col. 8 lines 37-67)**.

28. Moran teaches a trunnion work cell having a multiple sided trunnion fixture **16** that is rotated about a horizontal axis to position the workpiece near a second processing tool **(Col. 3 line 28 – Col. 4 line 10)**.

29. Okabe teaches a processing tool selected from the group consisting essentially of a welding robot **(Fig. 2)** and a sealant applicator.

30. It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated any one of the standardized workpiece presenters or processing tools of the above references with any one of the work cells of Sekine. It is very well known within the art of manufacturing and more specifically assembly line manufacturing to place machine cells having various workholders and tools in various arrangements as desired. For example, it would be obvious for a designer to place a work cell having a hexapod manipulator and a welder in a location of the assembly line where it is desirable to have a workpiece welded while being held by a hexapod manipulator. It has been held that mere arrangement of various components does not constitute patentable matter.

31. *Claims 13-14:* Sekine/Ozaku/Moran/Okabe teach the manufacturing process line of claim 12 but do not disclose any specific number or sequence of pedestal welding cells and trunnion work cells.

32. It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the pedestal welding work cells or trunnion work cells of the above references in any number, sequence or arrangement as desired. It is very well known within the art of manufacturing and more specifically assembly line manufacturing to place machine cells having various workholders and tools in various arrangements as desired. For example, it would be obvious for a designer to place a work cell having a hexapod manipulator and a welder in a location of the assembly line where it is desirable to have a workpiece welded while being held by a hexapod

manipulator. It has been held that mere arrangement of various components does not constitute patentable matter. *In re Japikse,* 86 USPQ 70.

33. *Claim 15:* Sekine also teaches the manufacturing process line comprising a material handling robot **25 (Fig. 11)** for transporting workpieces between work cells.

34. Claims 16-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine/Ozaku/Moran/Okabe in view of Stiers et. al. (U.S. Patent No. 6,642,473)

35. *Claim 16:* Sekine/Ozaku/Moran/Okabe teach the manufacturing process line of claim 12 but do not specifically teach the process line including a hem clinch work cell.

Stiers teaches the method wherein a work cell comprises the standardized workpiece presenter comprising a fixture in a tool and the processing tool is selected from the group consisting essentially of a hemming tool **10**, a clinching tool and a piercing tool **(Col. 4 lines 31-53)**.

36. It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the hem clinch work cell of Stiers with the manufacturing process lines of Sekine/Ozaku/Moran/Okabe. It is very well known within the art of manufacturing and more specifically assembly line manufacturing to place machine cells having various workholders and tools in various arrangements as desired. For example, it would be obvious for a designer to place a work cell having a hexapod manipulator and a welder in a location of the assembly line where it is desirable to have a workpiece welded while being held by a hexapod manipulator. It has been held that

mere arrangement of various components does not constitute patentable matter. *In re Japikse,* 86 USPQ 70.

37. Examiner further notes that it is obvious and well known for a second template to receive a workpiece from a first template and perform additional operation on the workpiece to complete the fabrication thereof.

38. *Claims 17-18*: Sekine/Ozaku/Moran/Okabe/Stiers teach the manufacturing process line of claim 16 but do not disclose any specific number or sequence of pedestal welding work cells, trunnion work cells or hem clinch work cells.

39. It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the pedestal welding work cells, trunnion work cells or hem clinch work cells of the above references in any number, sequence or arrangement as desired. It is very well known within the art of manufacturing and more specifically assembly line manufacturing to place machine cells having various workholders and tools in various arrangements as desired. For example, it would be obvious for a designer to place a work cell having a hexapod manipulator and a welder in a location of the assembly line where it is desirable to have a workpiece welded while being held by a hexapod manipulator. It has been held that mere arrangement of various components does not constitute patentable matter. *In re Japikse,* 86 USPQ 70.

40. *Claim 20:* Sekine/Ozaku/Moran/Okabe/Stiers teach the manufacturing process line of claim 16. Sekine also teaches the manufacturing process line comprising a material handling robot **25 (Fig. 11)** for transporting workpieces between work cells.

41. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine/Ozaku/Moran/Okabe/Stiers in view of Bullen (U.S. Patent No. 6,001,181).

42. Sekine/Ozaku/Moran/Okabe/Stiers teach the process line of claim 18 but do not specifically teach the process line wherein a work cell is configured with a sealant dispensing unit as a processing tool.

43. Bullen teaches a processing tool that is sealant dispensing unit **(see abstract)**.

44. It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the sealant dispensing processing tool of Bullen with the manufacturing process lines of Sekine/Ozaku/Moran/Okabe/Stiers. It is very well known within the art of manufacturing and more specifically assembly line manufacturing to place machine cells having various workholders and tools in various arrangements as desired. For example, it would be obvious for a designer to place a work cell having a hexapod manipulator and a welder in a location of the assembly line where it is desirable to have a workpiece welded while being held by a hexapod manipulator. It has been held that mere arrangement of various components does not constitute patentable matter. *In re Japikse,* 86 USPQ 70.

Response to Arguments

45. Applicant's arguments filed May 22, 2006 have been fully considered but they are not persuasive.

46. With respect to applicant's argument that Sekine does not teach that for each work cell at least a portion of the at least one standardized workpiece presenter remains

stationary relative to the at least one standardized processing tool when the workpiece is moved within and between each work cell, Sekine in fact does teach this limitation because the looped guideway constitutes part of the workpiece presenter and this guideway remains stationary relative to the processing tool when the workpiece is moved.

47. With respect to applicant's arguments regarding claims 8-11, Examiner notes that although Sekine does not specifically reference a closure that is a vehicle passenger door, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the manufacturing methods, processes and line of Sekine to produce a vehicle closure. Moreover, Examiner need not rely on official notice to maintain this rejection. Sekine explicitly teaches the use of this method of designing a manufacturing process line for the production of any body panel **(Col. 1 lines 20-25)**. Vehicle compartment doors constitute vehicle body panels. A manufacturing engineer, mechanical engineer, assembly line designer, machinist, or any other person of ordinary skill in the art would have recognized the applicability and relevance of the teachings of Sekine to the manufacture of vehicle compartment doors.

48. Applicant's arguments with respect to claims 12-15 are largely conclusory with respect to what the references do not teach alone or in combination. Examiner notes that the references are also improperly argued individually. With respect to rearrangement of parts, regardless of the specific factual scenario of *In re Japikse*, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the line to attain the claimed invention. Specifically, Examiner maintains

that mere arrangement of parts such as those of a work cell including a pedestal welder, sealant dispensing unit, projection weld gun etc. does not constitute patentable subject matter without a showing of **new and unexpected results**. It is certainly to be expected that providing particularly selected tools within a work cell where they are needed would lead to desirable processes. Examiner maintains that it would have been obvious to a manufacturing engineer, an assembly plant designer, a machinist, a floor manager at an assembly line or any other person of ordinary skill in the art of assembly lines to have, at the time of the invention, taken the teachings of Sekine along with the general knowledge in the art to create an assembly line comprising the claimed work cells and tools.

Conclusion

49. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

50. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

51. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher K. Agrawal whose telephone number is (571) 272-3578. The examiner can normally be reached on Mon-Fri 8:30AM-5:00PM.

52. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

53. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CKA

DAVID P. BRYANT
SUPERVISORY PATENT EXAMINER

7/20/06